MANAGEMENT INFORMATION SERVICE

Page 591 Report 95 Dec.-'51

INTERNATIONAL CITY MANAGERS' ASSOCIATION
1313 EAST 60TH STREET - CHICAGO 37, ILLINOIS

This report was prepared in response to an inquiry from a municipality subscribing to this Service and is distributed to all subscribers. The contents may not be reproduced without permission.

Route To:			
Return To:	-	-	

ADMINISTRATION OF REGULATORY INSPECTIONAL ACTIVITIES

How and where do regulatory inspectional activities best fit into the municipal organization, how can adequate supervision and control be provided, and how can standards and procedures be improved?

Municipal inspectional services are important to the health, safety, and economic well-being of a community. Several departments usually administer regulatory activities and practically every section of the city is visited daily by one, two, or more city employees. Inspectors visit homes of citizens, business establishments, or buildings being constructed to see that some ordinance or regulation of the city is complied with.

Three groups of regulatory inspectional services undertaken by cities are:
(1) those relating primarily to food, milk, housing, and to some extent sanitation, all of which generally are controlled by the health department; (2) routine and technical inspections in preventing and fighting fires, made by the fire department; and (3) all other municipal inspections—safety engineering inspectional work (buildings, electrical, plumbing, elevators, boilers, signs, etc.), weights and measures, air pollution, and other miscellaneous regulatory inspections. This report deals chiefly with the third group.

Cities for years have had some form of building inspection and milk inspection.

More emphasis has been placed in recent years on the inspection of housing, food establishments, fire hazards, and air pollution. Cities often adopt standard codes and model ordinances which provide splendid guides to improved practice. But a high standard of administration may be lacking because of inadequate supervisory coordination of inspectional work. This results in part from the fact that the inspectors work independently, because record keeping and reporting is inadequate, and in the main because the men are not properly trained for their work.

License ordinances generally specify the inspections and approvals that are necessary for the issuance of any license or permit, and after the license or permit is issued additional inspections are necessary to acertain whether the facility maintains the standards required. Thus a food handling establishment may require one inspection a month and a poolroom may require many inspections by the police department. A license for a hotel may require approval of the police, fire, and health departments before the license is issued and periodic inspections thereafter by each of the three departments at intervals determined by them.

It is proposed in this report that as many different inspectional services as possible should be brought together in one agency and that the issuance of licenses and permits also should be handled by the same agency. This would include the licensing of occupations and businesses, buildings and structures, weights and measures, and other inspections and licensing not strictly a public health or fire-prevention function, and in addition all examining functions which pertain to the qualifying of craftsmen, contractors, and others for licenses to pursue a trade. Such centralization will provide one-stop service to the applicant, avoid duplication of inspections, centralize responsibility and insure maximum protection to the public (see MIS Report No. 94).

Trend in Organization. During recent years several large cities have made surveys of their inspection activities and in most instances consolidation of all except certain health and fire inspections has been urged. Cities where such surveys have been made are Chicago, Detroit, Long Beach, Milwaukee, and Philadelphia, and notable progress has been made. The chief opposition to better organization has come from the heads of departments or agencies who for various reasons do not endorse consolidation or who are jealous of departmental prerogatives. The precedent of separate inspections for building, electrical, and plumbing work is difficult to overcome because of pressure from the building trades.

The trend toward consolidation is found in both large and small cities. A study made in 1949 by the city of Milwaukee shows that in 17 of 29 large cities surveyed the plumbing inspection function is organized in the same department or division with building and electrical inspection work, while in 12 cities plumbing inspection is in the health department, presumably on the basis of the health hazard in faulty plumbing instead of correct mechanical installation and procedure.

In Milwaukee the department of building inspection and safety engineering has been organized into five divisions: public building and housing, general building, electrical, hazardous occupations, and boiler and license. In addition, the department has a records and statistics division; an engineering division which also makes zoning analyses and investigations; a plan examination division which examines all plans for zoning and building regulation. Plans for heating, ventilation, and airconditioning are examined in the boiler and license division. There is also a general permit and accounting division which issues all permits, when applications have been approved by plan examiners, as well as water, sewer, and plumbing permits, and permits for house numbers, curb cuts, and so on.

Prior to consolidation in Kansas City, Mo., the public works department had eight separate inspection divisions, each headed by a chief inspector responsible to the director of public works. The chief inspector of each division determined administrative policy and each unit had its own clerical staff, files, telephones, and other equipment. Because of the similarity between boiler and smoke inspection work these two offices were combined as the division of smoke regulation. The remaining six units-building, plumbing, electrical, elevators, signs, and weights and measures-were brought together in a division of buildings and inspections. Consolidation of these activities has resulted in substantial savings in personnel, equipment, and other related costs. Billing for many miscellaneous permit and inspection fees is handled by the finance department.

In Los Angeles the department of building and safety enforces zoning regulations and the building, electrical, plumbing, heating, refrigeration, boiler, and elevator codes. It issues permits in these fields and also makes all inspections. Arlington County, Va., in 1950 created a department of inspections which includes five divisions: building, electrical, plumbing, weights and measures, and health sanitation. San Diego, Calif., has an inspection department, headed by a chief inspector appointed by the city manager, which checks plans for compliance with building codes, processes applications, and issues permits. It conducts field inspections of structures and buildings and electrical and plumbing installations. Chicago in 1944 created the position of coordinator of permits and inspections in the office of the mayor and in the following year a budget survey committee recommended that the 21 inspections pertaining to buildings and their appurtenances be consolidated.

One goal of consolidation is to train inspectors to make many different types of inspections. Los Angeles County, Calif., since 1933 has had building inspectors perform combined building, electrical, and plumbing inspection work. A typical new dwelling is inspected about 12 times by a building inspector who is capable of

performing all three types of inspections. When an inspector is confronted with a difficult job he notifies the central office which includes in its staff specialists in architecture, structural engineering, plumbing, and electricity. These specialists also assist in functional supervision and in the training of inspectors. Los Angeles County is now considering training building inspectors to inspect work on house connections to sewers, curb cuts and driveway construction, and perhaps other activities now handled by other county agencies.

The highest degree of consolidation will be effected in Philadelphia under a new charter which goes into effect early in 1952. Philadelphia will have a department of licenses and inspections which will enforce regulations pertaining to licensing and inspections prepared by other city departments. The department will train and maintain a force of inspectors who will make single inspections of property to determine compliance with building, health, fire, and other regulatory ordinances. This notable step points the way for other cities (see charter provisions reproduced at the end of MIS Report No. 94).

Consolidation does not necessarily mean that the specialized units would lose their identity where there is sufficient work to justify full-time employment in each field. Even among the smaller cities it has been common practice for building, plumbing, and electrical inspections to be made by different inspectors. In some cities, however, all three inspections are made by the same individuals, generally where there are only one or two inspectors, as in the case of Antioch and Monterey, Calif.; Boulder and Fort Collins, Colo.; Bluefield, W. Va.; Astoria and Bend, Ore.; Atchison, Kans.; Ashtabula, Ohio; Newport, Ky.; Jackson, Tenn.; and Ferndale, Mich. In Springfield, Ohio, all inspectors make all kinds of inspections except plumbing which is handled by the health department, and in Reno, Nev., the same men make electrical and plumbing inspections in residential districts, while in University City, Mo., inspectors do both building and plumbing inspections.

Procedure Toward Consolidation. The first step is to review all codes and ordinances relating to inspectional activities with a view to bringing them up to date and to avoid duplication and overlapping. Where statewide building, plumbing, and other codes have been adopted they should be set up as minimum standards which can be adopted or incorporated into local ordinances with the city having authority to make additional or more extensive requirements as may be desired. The city also should have authority to make reasonable modifications where local conditions require.

The next step is to make a survey of all city inspectional activities, particularly those in the fields of building inspection and safety engineering, health, fire, and public works. A typical procedure for making such a survey is indicated in the methods used in Milwaukee (see "Toward Consolidation of Building Inspection," Public Management, August, 1949, pp. 222-25) and in the published survey reports of Chicago, Detroit, and Philadelphia among the large cities. Such a survey should indicate the steps a city may take toward consolidation.

Experience in several cities shows that the first step is to bring together in one agency building, plumbing electrical, and certain other inspections in the building field with the men performing at the outset the same duties as before. This new agency would coordinate inspections and maintain relations with the applicant. It would check matters with other departments and furnish information, approvals, or disapprovals to the public on any matter involving building safety. Each city must determine how and where inspectional services best fit into the organization. The changeover to a single license and inspection agency must be carried out gradually. Administrative personnel in existing inspection units should be sold on the idea.

The next step toward consolidation is to train inspectors in the central agency to perform more than one type of inspection. Many types of inspections are routine in nature and a single inspector can cover many related items. It is generally conceded that combined inspection of construction, plumbing, and electrical work is possible in the case of single homes, small multiple dwellings, and small commercial buildings if personnel are properly trained in all of these fields. As the men become proficient in several fields they will be able to inspect the structural features of most buildings, together with its boiler, elevators, plumbing, electrical installations, etc. Well-known authorities, R. C. Colling and Hal Colling, in their book, Modern Building Inspection (1950 edition, pp. 125-26), state that inspections concerning the physical conditions of buildings and zoning matters might be done by a single individual known as the building inspector, while plumbing, electrical, and mechanical investigations could be made by a mechanical inspector.

Still another step toward consolidation is to transfer to the central license and inspection agency as many other inspectional activities as possible. It should be possible, for example, to transfer inspections in the fields of sanitation, housing, air pollution, heating, and ventilation from the health or other department to the central inspection agency. There is little advantage in having a fireman, a policeman, and a housing inspector visit the same building to determine whether the regulations as to proper use are being violated. The several agencies concerned should arrive jointly at a minimum standard for human occupancy and the work can then be done by the inspection department. Likewise, inspections of an observational or visual character not requiring a specialized technical background should be performed by the central inspection agency.

Some inspectional activities, such as the strictly public health and fire prevention inspections, generally should not be taken out of the respective departments. There may also be certain other inspections which are fairly routine but which do not warrant consolidation because they do not lend themselves to coverage on a district basis, or do not offer much possibility of saving in administrative or clerical expense, or the inspection may be too small an item to warrant detaching it from the agency now performing it, e.g., inspection of wharves and docks.

It should be stated, however, as suggested elsewhere in this report, that many of the permits and also certain inspections now handled by fire and health departments can be transferred to the central inspection agency. The inspection agency can ascertain all fire hazards whose correction or abatement is inherent in the construction of a building or other structure. To the fire department falls the duty of regulating and maintaining continuous inspection over the handling and storage of hazardous materials within all buildings, structures, and storage facilities; the devices, equipment, and methods employed in their use; and the adequacy of safeguards in the form of fire-fighting and control equipment required for protection to life and property in connection with their use.

The central inspection department insofar as possible should coordinate the efforts of inspectors in other departments that retain some regulatory inspections and also maintain relations with the applicant. This would eliminate many complaints and confusion because one department would be responsible for checking matters with all the other agencies, and one department alone would furnish information and approval or disapproval to the public on any matter involving building safety and certain other routine regulatory activities.

All applications for licenses or permits should be made at the central license and inspection office. This enables the city better to check on failure to renew licenses, results in more economical handling of the function, provides greater convenience for the applicant, and permits standardization of forms. Licenses and permits

generally fall into three classes -- those requiring no inspections or examinations, such as business licenses; those requiring inspections or examinations but not requiring an interview with the applicant at the time of application, such as most of the health department licenses; and those requiring not only inspections and examinations but also an interview with the applicant, such as building permits, street occupancy permits, and so on.

In regard to this latter class, applications cannot contain all of the necessary information and the applicant generally must discuss the matter with a city employee. While the central license bureau can handle the license, as in the case of the taxicab driver's license, for example, the application and the investigation can be handled by the police. This same procedure may be used for a limited number of other licenses and permits, but in every case there would be one clerical staff for issuing licenses and permits and a single public counter.

Some of the advantages of having a central license and inspection agency are: greater public convenience since the citizen must contact only one department and fewer inspectors visit him; eliminating duplication of clerical work; in-service training of inspectors is more readily established; supervisors can be released from desk work to work out in the field; and field inspection is more economical since one district inspector can handle visits formerly made by a number of inspectors covering the same area.

Relation to Fire and Health Inspections. The large bulk of the inspection work of any city is related to buildings and the use of buildings. These and other inspections, such as those performed by the public works department, should of course be consolidated, but in line with the preceding comments in achieving a line of demarcation between the responsibility of the central inspection agency and that of the health and fire departments it may be desirable to outline a suggested framework for dividing the building inspection function on clear-cut and logical lines among the three departments. It is assumed there would be comparatively little difficulty in consolidating regulatory inspections concerned with engineering and structural requirements, plumbing, zoning, and the installation of electrical, heating, and ventilating equipment.

Line or Field Responsibilities:

1. These responsibilities of the fire prevention service be clarified to include fire prevention and health maintenance inspections limited in general to the following types of structures which represent primarily fire hazards: public garages, theaters, hotels, dance halls, business buildings, schools, and other public buildings. Fire companies would of course continue routine dwelling inspections.

2. These responsibilities of the health department be clarified to include fire prevention and health maintenance inspections limited in general to the following types of structures which represent primarily health hazards: rooming houses, convalescent

homes, apartment buildings, and taverns.

3. These responsibilities of the central inspection department be clarified to be limited in general to detailed original construction and major alteration inspections on all types of buildings.

Staff or Policy-Making Responsibilities:

1. These responsibilities relating to fire hazards, including flammable liquids, except as they require new construction or major alterations, be the responsibility of the fire department. 2. These responsibilities relating to health hazards continue to be the responsi-

bility of the health department.

3. These responsibilities relating to the enforcement of the various building codes and regulations continue to be the responsibility of the inspection department. C. Interdepartmental Cooperation:

- 1. Inspectors of the fire and health departments participate in jointly conducted training programs covering specific inspectional problems in their respective fields.
- 2. The fire, health, and inspection departments mutually exchange information on joint problems and actively cooperate in the over-all inspectional program so as to limit the number of individual inspectors which the general public must encounter.

In other words, all new construction, alteration, and major repair inspections would be the responsibility of the inspection department. All subsequent maintenance-type inspections, undertaken to ascertain and eliminate health and fire hazards, would be performed by health and fire department inspectors on a logical building classification basis. Within this framework it becomes practical to eliminate most overlapping and duplicating inspections.

Avoiding Duplication of Inspections. Regardless of the size of the city, all construction inspections, including plumbing and electrical, should be centralized in one department. Within that department several steps should be taken to avoid as much as possible internal overlapping and duplication of inspections. Among the steps to be taken and brief comments concerning them are:

- 1. Divide the inspection function within the department into as few specializations as possible. In most cities, it will be necessary to recognize at least three inspection categories: (a) general building inspections, including carpentry, masonry, plastering, etc.; (b) electrical inspections; and (c) plumbing inspections. Larger cities should also consider two other inspection categories—elevator and boiler inspections.
- 2. Establish as part of the general building inspection division a residential and small buildings unit. This unit will bring together the biggest volume of plumbing, electrical, and general building inspections but the inspections involved are the most routine from the standpoint of technical difficulty.
- 3. Train and assign individual inspectors to perform all the required inspections in the residential and small buildings unit. The greatest controversy on any consolidation of building inspections will occur here. Opinions of craft unions and tradition in the field will tend to oppose this arrangement, especially in larger cities. The fundamental point which should not be overlooked is that this inspector is not intended to be competent in all phases of these various craft fields. He is to be competent in only a small phase of each field where the work involved is of a repetitive and not unusual nature. He should be an inspector and not a mechanic. The chief difficulty is in obtaining qualified men and training them.
- 4. Assign the inspectors in the various divisions to workable districts or areas to the extent possible. In making this assignment and the decision as to number of districts needed, consideration should be given to the tempo of construction activities, number of average inspections required in the district, type of transportation needed, and average number of daily inspections possible.
- 5. Establish adequate supervision in each of the inspection divisions to assure proper staff control and to provide prompt assistance on difficult problems encountered. In a relatively small division, such as the plumbing inspection division, one supervisory position should be sufficient due to the comparatively small number of inspectors assigned. Special technical problems encountered in the residential and small buildings inspection unit should be referred to the specialized inspection division technically concerned, such as the division of electrical inspections.

6. Designate employees who do structural and related inspections as building inspectors and over a period of time train them to perform combined inspections (building, electrical, and plumbing) as in Los Angeles County, and other types of inspections

Maintenance Inspections. Maintenance inspections of buildings are different from construction inspections in two important respects which should not be overlooked. First, they are less technical to perform and this should facilitate desirable consolidations. Second, they are not of an emergency nature and are susceptible to better scheduling and programming. The great volume of these maintenance inspections, which are made monthly, quarterly, or annually depending on the nature of the problem, relate to fire and health hazards and are made to ascertain and eliminate such hazards.

It would be desirable if all maintenance inspections could be centralized in the license and inspection department along with construction inspections. But in some cities officials may prefer to have theaters and schools, for example, assigned to fire department inspectors as suggested above, and rooming houses and convalescent homes to health department inspectors. In any event two major steps should be taken to assure an efficient maintenance inspection program:

- 1. Inspection route books should be prepared. Each such book should cover 30 to 40 buildings and for each building should include two pages (4x8-inches, for example). One page should be devoted to basic inspection data on the building, such as age, use, etc. The second page would be a summary chart which, under various violation categories, indicates the history of past and current inspections. This summary page should cover up to 8 or 10 inspections and when filled up can be replaced easily with a new page.
- 2. Encourage the inspector to serve the notice of violation whenever he encounters obvious and routine violations. Among the many violations for which the maintenance inspector should issue an immediate notice of violation without having a duplicate inspection made are the following: (1) extension cords used as line wires; (2) proper size fuses not being used; (3) minor repairs only of fire escapes and ladders; (4) fire escapes, ladders, or standpipes not securely fastened in place; (5) use of nonsafety containers for flammable liquids; (6) stove used for heating garage; (7) smoke pipe too close to combustible partition or ceiling; (8) gas range too close to woodwork; (9) exit to fire escape locked; (10) exit doors locked during the night; (11) stairway or fire escape blocked; (12) fire-door weights, ropes, or fusible links removed or lacking; (13) door at room leading to fire escape has no glass panel; (14) gutters and downspouts badly corroded; (15) room in need of repairs; (16) basement used for living quarters; (17) plaster in need of repair, and similar items.

The maintenance type of inspector can readily be trained to ascertain the great majority of fire, building, and health code violations. As a general rule, violations that do not require a permit to be issued should be brought to the owner's or building manager's attention with a notice of violation by the maintenance inspector.

Training of Personnel. Personnel assigned to perform new construction inspection normally possess and probably should be required to possess somewhat higher qualifications than those assigned to regular maintenance inspections. Training an inspector for combined inspections on construction work should include the following steps, assuming such combined inspections are limited to one-and two-family residences:

1. Describe in written form each step that an inspector, such as general building,

plumbing, and electrical, makes in carrying out the inspection.

2. Prepare a training manual incorporating data secured in Step 1 and code provisions affecting construction work involved in combined inspections. (This material

also can be prepared in check-list form for use at every inspection; it may be desirable to provide the inspector on the job a form which he signs to show that he actually has checked all items.)

3. Select the better qualified inspectors but initially exclude any that are

biased on the question of combined inspections.

4. Keep the trainee group small enough to avoid adverse effect on present in-

spection program.

5. Hold a series of brief sessions covering separately each specialized phase of the inspection field. Instructors should be qualified staff specialists or supervisors in the various specialties involved.

6. Select field training inspector leaders from among the better qualified

specialized inspectors.

7. Assign one trainee to work alongside the field training leader on regular inspection work covering all types of inspections involved in the specialty. One week may be sufficient time.

8. Rotate the trainees among the various training leaders until their field

training is completed.

- 9. Hold a final series of brief sessions covering first each specialized phase of the inspection problem and then a general session.
- 10. Issue a certificate of training completion and assign trained inspectors to regular combined inspections in the field. Monthly staff meetings should be considered to assure any continued necessary training.

Training as related to combined maintenance inspections should be in general as outlined above. The length of training probably will be shorter because of fewer technical problems. In all instances the point should be stressed that when the combined inspector encounters an unusual problem he should refer that particular part of the inspection to the specialized type of staff inspector. Such cases will be relatively few if training has been adequate.

In the next step, as more regulatory activities are consolidated, inspectors should be instructed in other specialized fields. Regulations prepared by various departments should set up standards and criteria for the guidance of the inspectors. Public relations also should be stressed. The city attorney should supervise the training of inspectors in enforcement practices, rules of evidence, and methods of compiling evidence. Certain office employees occasionally may accompany a field inspector to observe and to submit written reports. This acquaints office workers with practical problems. In-service training should provide highly trained personnel who can be shifted from one type of inspection to another to some extent to meet peakloads or to meet fluctuations in general business conditions.

<u>Inspection Techniques</u>. Administrative policy for all inspectional work should be determined by the head of the license and inspection agency with the approval of the director of public works (if in that department) and of the chief administrator.

Inspection is an administrative tool or device used to enforce public policy. The inspector usually determines on the spot whether the subject conforms to the standards laid down by law, ordinance, or administrative regulations. It is easy for the inspector to specify on the spot the measures necessary to bring the subject up to standard. This may promote good will and raise the prestige of the inspector, but care must be exercised so that inspectors will not show favoritism. This can be done by keeping proper records for the central office. In many cases, of course, the central office should send out notices based on inspection reports. In some cases the city may require the inspectee to make written reports to describe the processes and conditions to be inspected. This would provide the city with essential information on which inspections can be based.

Inspection is an accommodation to the public -- to see that the buyer gets full value. A surprise inspection is in order when the conduct of a program or agency is involved as in the case of food handlers, swimming pools, weights and measures, and so on. But inspections should not be carried out in a way that would interfere with the conduct of business. Complaints from the public must be investigated but citizen complaints do not provide a sound basis for an inspection program. City officials cannot justify such a practice because of inadequate staff; the smallest staff can carry out a positive inspection program even if only on a sampling, spot, or rotating basis.

In the supervision of inspection, rotation of inspectors generally is sound. There is little advantage in increasing an inspector's knowledge of his locale. The element of newness and surprise is almost as important for the inspector as for the subject. Inspection districts in large cities should be planned so that the inspector can spend a maximum amount of time inspecting and a minimum amount of time traveling. In a very large city inspectors might report to field offices or other concentration points where they can meet in the morning and where daily schedules can be assigned. This would save from one to two hours time that would be required to go to the city hall at the start and end of the work day.

Field reports of inspectors should be completed on the job before leaving for the next call. Field reports should be inspected for inconsistency and for work load analysis. The mere stepping up of the work load by a number of additional calls per day might reduce the effectiveness of the inspectional service unless proper controls are set up as a check on the inspector. Such controls include a complete daily report of each inspection made; shifting inspectors occasionally from one area to another to provide a means of evaluating the ability of each; providing for supervisory authority sufficiently close to the inspector level to be prompt and effective; requiring visual inspection reports from other inspection agencies covering the same premises; and investigating the regular work of each inspector by spot-checking its accuracy in the field.

The chief inspectors can assist with the office work at the beginning of each day and interview contractors and others who have business with them. The chief inspector also should prepare a weekly work program for each inspector in his group. These work schedules can be revised if necessary toward the end of the week to require a full week's work from each inspector. When work assignments are issued each morning some inspectors may complete their work by noon or early in the afternoon and return to the office or go to their homes. One way to avoid this is to require the chief inspectors to spend a large part of their time in the field.

Improving Procedures. Procedures for handling permits and plan examinations should be planned to assure prompt processing with due consideration to the volume of permits involved. Each step in the process should be thoroughly understood so that supervisory and technical personnel are not spending too large a proportion of their time on minor clerical duties. The purpose of all reports should be critically analyzed. Many reports may have little use and could be eliminated.

Many cities have a sufficient volume of permits to justify the installation of machines to avoid an excessive clerical staff. If the volume of permits is large enough, a key-punch machine and operator, for example, should be employed to punch data directly from all approved applications for permits and licenses issued. In smaller cities this work might be performed on a one-day or half-day-a-week basis by a qualified operator from a centralized tabulation unit or other office.

Only in the very largest cities will the volume of work justify the purchase of tabulating machines for this specific purpose. In view of the relatively little use

needed of tabulating machines, the punched cards should be sent for processing to the centralized tabulating unit or office where such machines are now employed. A regular schedule should be developed so that any necessary monthly, weekly, and other statistical reports can be developed on a regular basis direct from the punched cards. Attention should be given to using these punched cards to make a machine run of special abstract cards which contain basic information on various building permits for the use of the tax assessor. These cards should be retained by the tax assessor until they have served his purpose and then destroyed.

There are three points which should be observed to minimize the work involved in issuing a notice of violation. First, if at all possible, the notice of violation should be written in the field on a triplicate form (copy for owner or party concerned; inspector's copy; and office copy) at the time the inspection is made. Second, if the owner of the property or party concerned is not at the same address, the notice should be delivered to him personally by the inspector in whose district the owner or party concerned is located.

Mailing of the notice is desirable in some instances but better compliance and understanding generally result if a regular inspector delivers the notice and explains, if necessary, the reasons why it was issued. Third, notes should be made in the field on the inspector's copy of the notice and when the condition has been corrected the office copy should be pulled and destroyed and the inspector's copy filed.

A significant portion of an inspector's time can be wasted in using a form of transportation not suitable for his inspection district. In general, the following standards should be used with respect to transportation: (1) public transportation should be used for numerous inspections in a confined area; (2) private automobiles should be used for scattered inspections in a confined area; and (3) city-owned automobiles or vehicles should be used for scattered inspections in a large area. In a study of this problem in Milwaukee it was found that an electrical inspector, for example, using an automobile could make eight more inspections per day than an inspector using public transportation facilities.

Districts which require numerous inspections in a confined area, such as many fire, health, and building maintenance inspections, can be adequately serviced by an inspector using public transportation. When an inspector makes several stops in a block any other form of transportation is a hindrance to his operations and an unnecessary expense.

To undertake a simple check on the adequacy of current transportation methods, a certain number of inspectors may use automobiles and others use public transportation. A direct work-load comparison between the two transportation methods can then be made and this should indicate any desirable changes and staff savings. The question of use of inspector-owned automobiles or city-owned automobiles should be related to the general city policy on use of automobiles. However, if car allowances are generally small the use of cars should be confined to inspections which involve relatively low vehicle mileage.

Work Measurement. Two factors which should be analyzed and upon which any system of measurement for a building inspection department must be based, are the average number of inspections required per permit, and the average number of inspections which can be made by the inspector in a specified period of time. These two figures may be arrived at either by analysis of past records or by actual field study. Los Angeles, for example, established standards for these measurements in three successive steps. The first step consisted of field trips which were made for the purpose of determining what work was being done in the field, how it was being done, and noting the time taken to perform certain activities. The second step was a study of past statistics, and the third step consisted of consultation with outside persons connected with the various trades and with departmental representatives.

In setting the standards, both as to the average number of inspections required per permit and the average number of inspections made by the inspectors, consideration should be given to the various types of permits issued. This is necessary to recognize that certain types of permits require more inspections than do others, and that it is possible for some types of inspectors to make more inspections than others. Each inspector should report fully on his day's work so that the department head can determine the volume of work and the time required for various types of inspection. The daily report also should provide information needed to maintain a complete history of each building or other project for which a permit has been issued.

It is generally found that the building permit averages more inspections than do the plumbing and electrical permits. It has also been found that the building inspector is able to average a greater number of inspections per day than the plumbing and electrical inspectors. Also, the method of transportation provided and the size of district or area covered will affect the number of inspections that can be accomplished. Normally, however, an average of 25 to 30 inspections per day is not considered too much, especially for a building or plumbing inspector. The correct standard will vary from jurisdiction to jurisdiction due to the many differences which affect the standard.

Consideration should be given to setting up a scoring technique for measuring performance in maintaining minimum standards in certain fields. If the inspection agency has a manual of standard practice it should indicate how far an inspector is supposed to go in making inspections. In the case of dairies, for example, a scoring technique may be used so that the place inspected may be compared with top performance. The goal would be to nail down the question of adequacy of protection for the citizen, and once quality standards are fixed for an activity any simplification of procedures can be made within the limits of those standards. Once the standards have been set, they should be subjected to periodic review and changed if necessary. Deviations from the standards should be analyzed to correct their cause or to change the standards.

Examinations and Appeals. The inspection department, with the advice of a board of examiners, can be responsible for holding examinations and certifying skilled craftsmen in the plumbing, electrical, and other building trades, instead of having separate boards of examiners. The makeup of the board can include representatives of the crafts for which examinations are held, such as an electrician, master plumber, and a heating and ventilating engineer. It is desirable also to have key employees of the inspection department review examination questions for their specialty to assure their fairness and validity. Another satisfactory solution would be to arrange for examinations to be prepared and conducted for the board by the city's personnel department. The city in any case should avoid using examinations that will tend greatly to restrict the certification of properly qualified men.

Provision should be made for a board of appeals with authority to grant certain specified minor modifications and to approve alternate methods and materials. To reduce the volume of requests in the larger cities, division heads should have the authority to grant certain specified minor modifications when special conditions warrant. Such modifications can be granted directly by written letter and later confirmed by action of the appeals board. Proposed amendments to the ordinances or codes should be sent in advance to all industry associations affected and wide publicity given to the revisions after which a public hearing should be held before the proposed ordinance revisions after which a public hearing should be held before the proposed ordinance amendments are sent to the city council for action. It should be noted that if adequate and complete records of code and ordinance violations are kept such data will be extremely valuable as a factor in determining the practical aspects of proposals to make requirements more strict.

Enforcement. The central license and inspection department should determine as a result of its inspections whether any person or property owner violates the conditions of any license or of any law or regulation and should have authority to call on the law and police departments. Many noncompliance cases can be kept out of court by inviting the violator to come to the license department for a conference, and thereby exhausting every means to secure compliance before legal action is taken.

The city attorney has a major responsibility in the prosecution of violations. The attorney must rely principally upon the inspection agency for evidence. Best results will be secured if the chief administrator periodically reviews, in conference with the city attorney and the inspection department head, the enforcement policy which is to be followed. Final responsibility for policy rests of course upon the city council, but that body should certainly not proceed until it has had the advice and suggestions of the enforcement officials.

The same enforcement policy is not likely to be followed by the law and inspection departments unless the chief administrator brings about a liaison. If law department prosecution is more lax than the policy followed by the regulatory unit, the morale of the staff of that unit will drop sharply when they find that complaints they initiate do not "stick". On the other hand, if the attorney wishes to follow a sterner policy than does the regulatory unit, he will find that his mill has no grist to grind-that he has no means, apart from the enforcement agency, to secure complaints or evidence upon which they are based.

The city attorney's office must realize that prosecution of violations is only a secondary aim of the inspection agency and that all of its procedures cannot and should not be organized around this goal. Nevertheless, there is no excuse for persistent failure to convict violators through careless preparation of prosecutions, and when this occurs the responsibility must be shared by the legal and inspection departments.

Some of the resentment that may be caused by enforcement is a lack of appreciation by the public of the real value of the standards established by ordinances and there may be a feeling that rulings are made without good reason by the inspectors. For these reasons the essential features of the building, sanitary, and other codes should be abstracted and published in a small abridged edition and furnished free to prospective builders or others who are affected by inspections. Copies could be presented by the inspector to offenders before serving a notice of violation. The manual also can be used in in-service training courses for inspectors.

Procedures should be set up to detect failures to secure licenses and permits. It should be easy to ascertain, for example, the failure of retail stores, food establishments, and similar places to obtain licenses. A file of all outstanding licenses could easily be checked as the renewals come in and automatically reveal failure to renew. The police and fire departments should be responsible for preventing the operation of any businesses which do not display the proper license or certificate or other evidence of compliance with city ordinances.

Note: Officials of cities that subscribe to MIS may obtain on request (1) a selected bibliography on regulatory inspections, (2) a list of inspections that are normally made on one or two-family residences, and (3) loan copies of forms and other material used in building inspections. Grateful acknowledgment is made to Robert C. Garnier, city service commission, Milwaukee, who participated in the 1949 survey of building inspection practices in that city and who prepared the first draft of this report, and to George E. Bean, city manager, and Fred E. Wegner, chief building official, of Grand Rapid Mich.; Howard E. Earl, assistant chief administrative officer, Los Angeles County, Calif. C. A. Pitchford, assistant city manager, Richmond, Calif.; and Leon Gurda, inspector of buildings, and Harry Glisch, deputy inspector, Milwaukee, who reviewed tentative drafts and made constructive suggestions or provided useful information.